Suicide Prevention in Schools: What Can and Should Be Done

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ABSTRACT

Suicide is a leading cause of death among youth, and schools have an important role to play in preventing suicide. A number of principles of suicide prevention effectiveness are described, as well as recommendations for school efforts to prevent suicide.

INTRODUCTION

In the United States, 70.6% of all deaths among youth and young adults aged 10 to 24 years result from only four causes: motor-vehicle crashes (31.4%), other unintentional injuries (12%), homicide (15.3%), and suicide (11.9%). Among youth, suicide is the third leading cause of death. While many schools recognize this, most struggle with how they can effectively address suicide prevention. A quick review of a number of mission statements suggests that many schools include something about intellectual, emotional, and physical development of students as part of their mission. This is a daunting responsibility. In our communities, which face increasingly difficult financial issues, where families are less intact, where drugs and alcohol are a constant menace, a mission that is focused on these core, interrelated developmental aspects of our youth is more a challenge today than ever. Keeping our young people safe and alive is part of this challenge and, for a good part of the day, this responsibility falls on the schools.

Schools are the center of many adolescents' lives and they can influence students' personal and social development. Therefore, it is appropriate that the first line of suicide prevention strategies should lie within the educational system. From the perspective of health promotion, schools are in a unique position to identify suicide vulnerable youth. It is important to remember that many high risk youth are not in school, and communities should work to find ways to deliver prevention and treatment services to them. In this article we review the nature of the problem of youth suicide, discuss the logic of suicide prevention, and review a number of strategies for preventing youth suicide with a particular focus on the role of schools.

SUICIDE IN THE UNITED STATES

In 1999, suicide was the 11th leading cause of death in the United States with more than 29,000 suicide deaths (Centers for Disease Control and Prevention, 2003). In the same year, homicide was the 14th leading cause of death with almost 17,000 deaths. Among youth aged 10 to 19, suicide was the third leading cause of death (1,857 deaths) in 1999 behind unintentional injuries (8,320 deaths) and homicide (2,339 deaths). The number of non-fatal emergency department visits (in the year 2000) for self-inflicted injures among youth aged 10 to 19 is estimated at 65,452 (Centers for Disease Control and Prevention, 2002). Thus, there are approximately 35 suicide related emergency department visits each year for every suicide death among youth.

Information on self-reported suicidal behavior among high school aged students comes from the Centers for Disease Control and Prevention's (CDC) 2001 Youth Risk Behavior Survey (Grunbaum, Kann, Kinchen, Williams, Ross, Lowry, & Kolbe, 2002). During the 12 months preceding the survey, 19% of students reported that they seriously had considered attempting suicide. Female students (23.6%) were significantly more likely than male students (14.2%) to have considered attempting suicide. Nationwide, 8.8% of students reported that they had attempted suicide more than one time during the 12 months preceding the survey. Female students (11.2%) were significantly more likely than male students (6.2%) to report attempted suicide.

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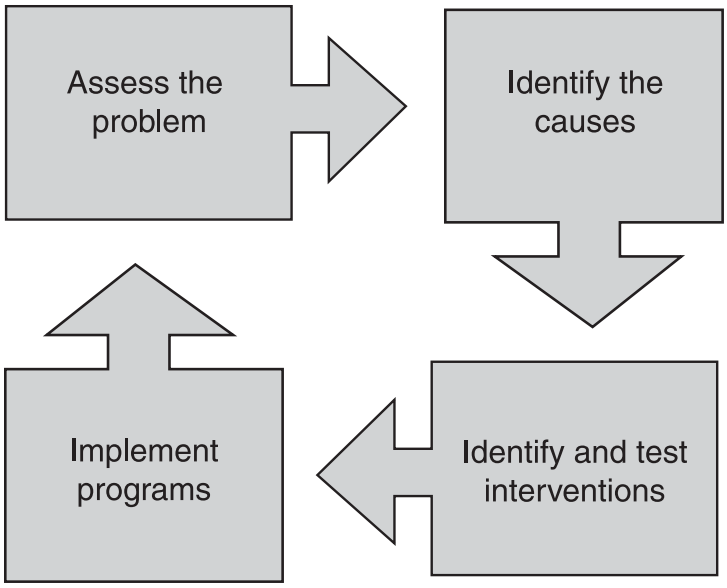
Figure 1. A Scientific Approach to Suicide Prevention



PUBLIC HEALTH APPROACH TO PREVENTING SUICIDE

To effectively prevent the public health problem of suicide we must use science. The public health approach (Figure 1) provides a multi-disciplinary, scientific method of identifying effective strategies for prevention (Potter, 2001; Dorwart & Chartock, 1989; Potter, Rosenberg, & Hammond, 1998; Potter, Powell, & Kachur, 1995; Seiden, 1977). This approach starts with defining the problem and progresses to identifying associated risk factors and causes, developing and evaluating interventions, and implementing interventions in programs.

Public health traditionally has responded to epidemics of infectious disease with a focus on environmental modification and vaccination. During the past few decades, public health has incorporated efforts to modify high-risk behavior, with the goal of preventing chronic disease and injury. Increasing rates of suicide among adolescents and young adults in the United States has led the Maternal and Child Health Bureau of the Health Resources and Services Administration to identify adolescent suicide prevention as a performance measure for state grantees. Many states are now employing the public health approach to address youth suicide.

One of the earliest studies that examined the relationship of community to suicide was conducted by Emile Durkheim (Durkheim, 1951). He attempted to formulate a consistent and systematic hypothesis concerning the causes of suicide. Durkheim was the first to demonstrate that suicide rates in a population were related to social conditions. Durkheim's theory and analysis predated Freudian psychoanalytic psychiatry in which individualized therapy and cures for neuroses and mental illness involved correction of problems that developed during the evolution of the psyche. Contemporary psychiatry, through its focus on the individual and an emphasis on therapy, offers treatment for individuals who may be suicidal.

A distinction between "sick individuals and sick populations" made by Geoffrey Rose (Rose, 1985) describes the "high risk approach" and the "population approach" to prevention. The high risk approach seeks to protect susceptible individuals. This approach is consistent with therapeutic or psychiatric prevention efforts where the emphasis is on identifying suicidal or potentially suicidal persons and referring them for psychotherapy or individual treatment. This effort does not address the underlying social and environmental factors that determine the incidence of suicidal behavior in a population.

The public health approach acknowledges the importance of both high risk and population approaches to prevention. Ultimately, the goal in public health is incidence reduction. By developing and implementing a multi-faceted approach to suicide prevention, this goal may be achieved. More specifically, goals of public health for suicide prevention include: identification of patterns, epidemics, and differential rates of suicide and suicide attempts using surveillance; identification of causal chains for these patterns and modifiable elements within the causal chains using epidemiologic research; and the design, implementation, and evaluation of interventions directed toward suicide prevention.

Preventive interventions usually are efforts to break a causal chain between the potential for a negative outcome and achieving that outcome. Thus, development of preventive interventions depends on the previous step in the public health model - identifying and understanding the causes of suicidal behavior. In practice, however, interventions are often implemented and occasionally evaluated with little or no specification of the causal chain or how the intervention will affect the chain.

Interventions can be thought of in terms of primary, secondary, and tertiary prevention. Additionally, we can direct interventions toward groups or individuals. Suicide prevention interventions may attempt to change high-risk behavior by focusing on the attitudes and behavior of individuals or groups (e.g., peers, families, and communities). Clinical interventions usually are secondary and tertiary prevention efforts that focus on individuals, after a problem has developed. Public health interventions usually employ primary prevention efforts that focus on groups.

PROGRAMMATIC STRATEGIES

CDC has reviewed and summarized a range of strategies intended to prevent suicidal behavior (Centers for Disease Control and Prevention, 1992). A review of suicide prevention efforts listed in the guide suggests that most suicide prevention programs embrace the high risk model of prevention where the goal is case finding and referral (Rose, 1985). Screening and referral, crisis centers, and community organization are common examples of this high risk approach. Suicide awareness or education activities, media guidelines, and means restriction are examples of population-based interventions. Currently, neither the high risk nor the population prevention approach can be said to be more effective than the other for the problem of suicide. However, it is reasonable to expect that a combination of these approaches would be a more effective manner to affect suicide rates and suicide related morbidity than only one approach. Implementing efforts to reduce suicide risk with a focus on a population or a population segment combined with more intensive efforts to identify and provide services for those at greatest risk is an example.

There are a number of programmatic strategies for suicide prevention that schools and communities might consider to implement. Regardless of the strategies a school may employ, it is important that the school develop a comprehensive plan for preventing suicide, for safely managing a student who may be suicidal, and for responding appropriately and effectively after a suicide occurs. Other strategies include gatekeeper training, prevention education, screening, peer support programs, crisis intervention, restricting access to means, providing aftercare those who experience significant loss, and educating families.

Gatekeeper training in schools is a type of program designed to help school staff (e.g., teachers, counselors, and coaches) identify and refer students at risk for suicide. These programs teach staff how to respond to suicide or other crises in the school. This is a commonly implemented strategy, and it makes sense to ensure that key school staffs know how they should respond to someone in crisis or someone who is thinking about suicide. There are a number of different programs available, and some communities have developed their own programs. Most gatekeeper models tend to include training gatekeepers to ask if someone they have concerns about is thinking about suicide. They also tend to emphasize listening, being supportive, and transferring care of persons who are considering suicide to an appropriate professional. The logic of the gatekeeper model is that adults who come in contact with youth should know clearly what they should do if they encounter a youth whom they think might be suicidal. There are several assumptions inherent in the model that should be considered. It assumes that appropriate services are available and that a system is in place to enable the gatekeeper to make an appropriate referral and to transfer care. The gatekeeper model assumes that youth who are at risk for suicide will be more likely to be identified and more likely to receive effective care if a person trained as a gatekeeper has contact with them.

Results from evaluations of gatekeeper training programs indicate that persons trained are more likely to: (1) believe they would act to prevent youth suicide, (2) demonstrate greater confidence in suicide assessment and intervention knowledge, and (3) report higher levels of comfort, competence, and confidence in helping at-risk youth. Youth who participated in a two day gatekeeper training were significantly more likely to know warning signs for suicide and more likely to respond with effective suicide prevention steps than non-participating peers (University of Washington, 1999). Gatekeeper training programs in Colorado and New Jersey have shown similar results (Barrett, 1985). Currently, there is no evidence from experimental or quasi-experimental evaluation studies that provide information on suicide related outcomes for this strategy. However, the logic and rationale of gatekeeper training make it a compelling strategy for schools to employ.

The concept behind suicide prevention education is that students learn about suicide, its warning signs, and how to seek help for themselves or others. These programs often incorporate a variety of activities that develop self-esteem and social competency. An educational approach is relatively popular. They can reach substantial numbers of people and usually are delivered with limited duration and exposure. Studies indicate that an educational approach can increase knowledge of warning signs and sources of help and referral. There is little evidence to suggest that an educational strategy will result in changing attitudes toward suicide or willingness to seek help. There is evidence from one study that youth who had attempted suicide in the past had negative reactions to an education program (Shaffer, Garland, Vieland, Underwood, & Busner, 1991). Thus caution should be taken in implementing this strategy and resources should be in place to recognize persons who may be at risk and to provide appropriate care and referrals. As with any curricula being considered, suicide prevention education programs should be evaluated in terms of the practicality of the content and duration for achieving intended outcomes. If the content and duration are limited, achieving desired outcomes may be limited as well.

Screening programs usually involve administering a questionnaire or other screening instrument to identify high-risk adolescents and young adults and to provide further assessment and treatment. Repeated assessment can be used to measure changes in attitudes or behaviors over time, to test the effectiveness of a prevention strategy, and to detect potential suicidal behavior.

Screening strategies are focused on identifying underlying characteristics associated with suicidal behavior. Behaviors and symptoms associated with major depression usually are the factors that are focused upon. Not all persons who attempt or complete suicide exhibit behaviors or symptoms consistent with diagnosis of major depression, though there is a fair amount of evidence that many, if not most, persons exhibiting suicidal behavior have some form of

diagnosable mood disorder. Screening only for indicators of mood disorder will miss some percentage of persons who will go on to attempt or complete suicide. This may be a small number.

In one study, the Diagnostic Interview Schedule for Children (DISC) had a very high rate of sensitivity (identified all cases) for major depression, and had specificity of less than 1 (Lucas, Zhang, Fisher, Shaffer, Regier, Narrow, Bourdon, Dulcan, Canino, Rubio-Stipec, Lahey, & Friman, 2001). The result of lack of specificity in a screening program is that more youth with low risk need to be seen by a clinician, thus increasing the cost of screening.

Another issue in screening is that not all persons who are depressed or have a psychiatric disorder will attempt or complete suicide. In many ways, a strategy of screening for psychiatric disorders and case management through treatment is expected to result in reducing suicide rates. The logic is sound, but there does not appear to be any experimental or quasi-experimental evaluations conducted to conclude that this strategy will reduce suicidal behavior.

Screening for suicide risk is recommended by The American Academy of Pediatrics (AAP). The AAP recommends asking all adolescents about suicidal thoughts while gathering information for routine medical histories. The American Medical Association in their Guidelines for Adolescent Preventive Services (GAPS) (Elster & Kuznets, 1994) and Bright Futures (Green, 1994) recommend that providers screen adolescents annually to identify those at risk for suicide. The Guide to Clinical Preventive Services, 2nd Ed. (U.S. Preventive Services Task Force, 1996) does not recommend screening for suicide because there were no valid or reliable instruments for assessment of suicide risk at the time the guide was written.

Mental health screening probably should be part of any school health program. This may be a resource intensive endeavor, however, because it requires that the system is prepared to provide and manage services for those identified. In any effort to provide services across agencies and organizations, coordination is essential. Coordination must occur between the youth, school, referral agency, and the home. It is essential also that all youth know to whom they can go if they or a friend needs help. Having a designated coordinator for youth mental health services would facilitate coordination of services and follow-up with at risk youth. A coordinator also could provide leadership in the event of a suicide within the school's population.

Peer support programs can be conducted in or outside school and are designed to foster peer relationships and competency in social skills among high-risk adolescents and young adults. Peer support programs try to provide a setting in which young people who may be at risk for suicide can receive the support of their peers and can develop positive interpersonal relationships.

One of the most extensively evaluated peer-support programs is Reconnecting Youth (Eggert, Thompson, Herting, Nicholas, 1995; Eggert, Thompson, Herting, & Randell, 2001; Eggert, Thompson, Herting, & Nicholas, 1994). The program incorporates social support and life skills training with the following components: a semester-long, daily class designed to enhance self esteem, decision-making, personal control, and interpersonal communication; social activities and school bonding, to establish drug-free social activities and friendships, as well as improve a teenager's relationship to school; and a school system crisis response plan, for addressing suicide prevention approaches. Another program that employs a peer support model is called Natural Helpers. This program was implemented in a Native American community and was associated with a decline in suicide rates (Centers for Disease Control and Prevention, April 10, 1998). The peer support model is one to consider for primary prevention of suicide and, if implemented well, actually may result in positive outcomes for a number of health issues affecting youth.

Through crisis centers and hotlines trained volunteers and paid staff provide telephone counseling and other services for suicidal persons. Such programs also may offer a "drop-in" crisis center and referral to mental health services. The function of these services relies on the presumption that suicide attempts often are impulsive and contemplated with ambivalence. Hotlines are designed to deter the caller from self-destructive behaviors until the immediate crisis has passed. The anonymity afforded by hotline calls allows the caller to feel secure and in control. Many hotlines are linked to schools and to mental health services.

Studies indicate that hotlines may reduce the rate of suicide among young women (Centers for Disease Control and Prevention, 1992). However, hotlines tend to be used by those at relatively low risk of suicide, mostly young women. Their effectiveness on the rates of suicides among men has not been demonstrated. The effectiveness of hotlines and crisis centers might be improved by increasing outreach to young males, requiring consistent training of volunteer staff, and taking steps to improve follow-through with callers.

Restriction of access to lethal means. Activities are designed to restrict access to handguns, drugs, and other common means of suicide. Impulsiveness and ambivalence are important factors in suicidal behaviors among young people (Simon et al., 2001). Therefore, means restriction has potential for preventing suicides. At least some portion of impulsive decisions to attempt suicide might never be acted on if substantial efforts were needed to arrange for a method of suicide. Means restriction has proven to be a controversial approach to prevention. This is most true for firearms, but efforts to promote construction of barriers on bridges, to modify the design of automobiles, and impose restrictions on dispensing of medication also have resulted in controversy. Efforts to educate parents of youth about risks associated with access to firearms and lethal doses of drugs may be one way that schools can employ this strategy for prevention. Also, when a youth is considered to be at risk for suicide, some

assessment of his or her access to means may be called for, and some effort to restrict access to means should be implemented.

Intervention after a suicide. These programs focus on friends and relatives of persons who have committed suicide. They are designed partially to help prevent or contain suicide clusters and to help adolescents and young adults cope effectively with the feelings of loss that follow the sudden death or suicide of a peer. As part of their crisis response plan, schools should identify persons who witnesses a traumatic event or who experienced significant loss as a result of the event. This plan should include provision of appropriate counseling and means to refer and follow-up with those affected.

Family education and involvement. Parents and caregivers of youth are important to consider when developing and implementing a suicide prevention effort. Family members often are most aware of the mood states and issues troubling children. Too frequently, family members are not aware of signs and symptoms of mood disorders or of suicide until the situation of a child has evolved into a crisis. Educating parents and caregivers about how to recognize possible symptoms, and what to do when they become concerned, may be an effective strategy to prevent suicide.

Because current scientific information about the efficacy of suicide prevention strategies is insufficient, one intervention strategy cannot be recommended over another with certainty. However, several general recommendations about school suicide prevention can be made (Table 1).

Design of an effective intervention involves specification of how the intervention will interrupt the causal sequence. Implementation of the intervention must be consistent with this specification. Yet in practice, implementation often deviates from the intervention specified. For example, insufficient resources or inadequately trained workers may result in an intervention that does not meet the designed specifications. Thus, process evaluation (assessment of service delivery) is a crucial element of any intervention. This type of evaluation might be equated with measurement of dose "delivered" versus dose prescribed in a medical model. It is important that both process and outcome evaluation be part of the planning and implementation of any intervention.

Table 1. Recommendations for School Efforts to Prevent Suicide

School health education should include training for students on:

- Identifying troublesome feelings
- Sources of help for troublesome feelings
- Identifying possible signs or symptoms of depression
- Strategies for preventing and dealing with depression
- Sources of help for depression
- Potential signs and symptoms of depression and troublesome feelings

Schools should:

- Provide training for teachers and staff to help identify students with depression or exhibition of pre-suicidal behaviors
- Establish a mechanism of identification and referral of pre-suicidal students
- Train parents to help them identify when their children are experiencing depression and/or are exhibiting pre-suicidal behaviors
- Designate a staff person to coordinate programs for youth who are depressed
- Develop a plan to respond to suicide among students; that plan should reflect best practices regarding prevention of subsequent or cluster suicides
- Avoid reliance on only one program or strategy

EVALUATING PROGRAMS

In all cases, and regardless of what strategy is implemented, it is important to consider how the program to be delivered will be evaluated. Evaluation is part of ensuring accountability and is easier than most people believe. A well designed and well run suicide prevention program produces most of the information needed to determine its effects. The key to success for effective evaluation is preparation. Ease of evaluating a program depends upon the effort put into program design and operation. Tension often develops between spending resources on service delivery and on evaluating the program. However, programs that can demonstrate effectiveness and efficiency are more likely to obtain legislative, community, technical, and financial support.

Program evaluation is a way to help suicide prevention efforts be more effective. Evaluation is the process of determining how well programs work. Evaluation can identify benefits and problems of a program. Evaluation information can improve the delivery of effective programs. Without evaluation of programs, we do not know if the program benefits or harms the people we are trying to help. Thus, one element of an evaluation strategy should be to ensure that a mechanism exists to identify any participants who are agitated or disturbed in association with delivery of a prevention effort, combined with a system for making appropriate referrals and services.

Evaluation informs stakeholders if the program is achieving its goals and whether the program needs to be modified. By gathering basic information about program delivery and changes in participant knowledge, behavior, or attitudes, administrators of a program can assess effectiveness and can identify changes that need to be incorporated. Additionally, evaluation can improve the morale of program personnel, as program staff sees that their efforts are not wasted and develop and implement strategies for addressing needs identified by the evaluation.

DISCUSSION AND CONCLUSION

We have described a number of strategies that are being employed to prevent suicide. One or a combination of these strate-

Table 2. Principles of Suicide Prevention Effectiveness

- Suicide prevention programs should be designed to enhance *protective factors*. They also should work toward reversing or reducing known *risk factors*.
- Suicide prevention efforts should be long-term, with repeat program elements to reinforce the original prevention goals.
- Family-focused efforts to prevent suicide may have a greater impact than strategies that focus only on individuals.
- Community programs that include media campaigns and policy changes are more effective when individual and family interventions accompany them.
- Suicide prevention programs should work to strengthen norms that support help-seeking behavior in all settings, including family, work, school, and community.
- Suicide prevention programming should be adapted to address the specific nature of the problem in the local community or population group.
- The higher the level of suicide risk in a population segment, the more intensive the prevention effort must be, and the earlier it must begin.
- Suicide prevention programs should be age-specific, developmentally appropriate, and culturally sensitive.
- Suicide prevention programs should be implemented with no or minimal differences from how they were designed and tested.

Adapted from Sloboda, Z. and David, S. (2001). *Preventing Drug Abuse Among Children and Adolescents.* National Institute on Drug Abuse.

gies may be what a school decides to employ to address suicide prevention. A number of principles of suicide prevention effectiveness have been described (Table 2) (SPANUSA, 2001). These principles will be helpful in thinking through strategies to employ.

In prioritizing, prevention efforts generally should begin by addressing the most severe aspects of the problem. Establishing crisis services and developing a trained cadre of gatekeepers might be one way to provide a "safety net" for youth who are in crisis. Screening efforts combined with educational efforts may be an effective way to identify and focus on high risk youth in a more proactive way. With a "safety net" in place, primary prevention efforts that are focused on trying to prevent development of a suicidal behavior should be developed and implemented.

Suicide is a leading cause of death among youth, and schools have an important role to play in preventing suicide. Given the significance of the problem among youth, it is difficult for schools to ignore the risk of suicide. By examining the nature of the problem and developing and implementing an effort to address youth suicide, schools may have a significant influence on protecting youth.

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